Tuberculosis Data Snapshot

Idaho's provisional total number of active tuberculosis (TB) cases for 2007 is nine. This is near Idaho's baseline from the previous decade of 10-15 cases per year after seeing increases in 2005 (23 cases) and 2006 (20 cases). As illustrated in Figure 2 Idaho has had a gradual decline in TB cases until about 1990, but the number of cases has remained relatively stable since then. While Idaho is classified as a low-incidence state (<3 cases per 100,000 population), TB remains a threat to public health. Please call your local public health district or the Office of Epidemiology and Food Protection for assistance with TB questions. Guidelines for evaluation and treatment of individuals with TB can be found at http://www.cdc.gov/tb/pubs/mmwr/maj_guide.htm.

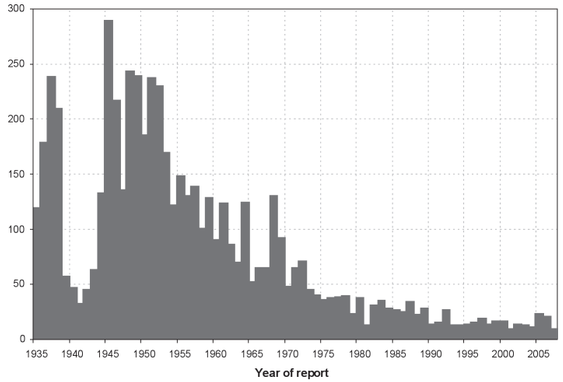

Figure 2. Reports of Confirmed Active Tuberculosis Cases in Idaho. 1935–2007*

*2007 data are provisional

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An electronic version of the Rules and Regulations Governing Idaho Reportable Diseases may be found at http://adm.idaho.gov/adminrules/rules/idapa16/0210.pdf
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Cluster of Invasive *Streptococcus pneumoniae*: a Reminder to Vaccinate

Recently the Office of Epidemiology and Food Protection investigated a cluster of nine cases of invasive *Streptococcus pneumoniae* that occurred in adults treated at one Idaho hospital November 18, 2007–January 13, 2008. Invasive *S. pneumoniae* is defined as the laboratory isolation of *S. pneumoniae* from a normally sterile site (e.g., blood, cerebrospinal fluid, etc.). In the United States, *S. pneumoniae* is responsible for an estimated 50,000 cases of bacteremia and 40,000 deaths per year and is a leading cause of invasive bacterial disease.[1, 2]

The nine patients ranged in age from 31–88 years (median 47 years). Seven patients were diagnosed with pneumonia and two with meningitis; five required ventilator support and four died. *S. pneumoniae* isolates from three patients were serotyped as 3, 15B, and 19A; each of these serotypes is included in the polyvalent pneumococcal polysaccharide vaccine (Pneumovax® 23, Merck & Co., Inc.). The remaining isolates are not yet serotyped. None of the patients were previously vaccinated with pneumococcal vaccine. Six of the nine patients had indications for vaccination, including age ≥65, and/or a history of chronic alcoholism, chronic liver disease, chronic heart disease, chronic lung disease, or Hodgkin's disease. Additionally, one patient reported a history of chronic methamphetamine abuse and, while the Advisory Committee on Immunization Practices (ACIP) does not officially recommend pneumococcal vaccination in this population, chronic methamphetamine usage has been shown in experimental models using laboratory animals to decrease the immune system's ability to respond to infectious diseases.[3]

Providers should be vigilant about recommending vaccination against *S. pneumoniae* in appropriate patients. Polyvalent pneumococcal polysaccharide vaccine is indicated for routine administration in adults ≥65 years of age and in persons ≥2 years of age with certain medical conditions or social situations, including chronic cardiovascular disease, chronic pulmonary disease, diabetes mellitus, alcoholism, chronic liver disease, and those with functional or anatomic asplenia.[2] Please see the Pneumovax® package insert for a complete listing of prescribing instructions, and ACIP recommendations for pneumococcal vaccination at http://www.cdc.gov/vaccines/recs/schedules/adult-schedule.htm. In Idaho, invasive *S. pneumoniae* in persons <18 years of age is reportable. Please report any cases to your local public health district, or to the Office of Epidemiology and Food Protection.

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Hepatitis A: good news for travelers and good news for Idahoans

FOR DECADES, IMMUNE GLOBULIN (IG) has been recommended for prophylaxis after exposure to hepatitis A virus (HAV), and in addition to hepatitis A vaccine for travelers scheduled to depart in less than 4 weeks to countries with high or intermediate HAV endemicity. New recommendations were made by the Advisory Committee on Immunization Practices (ACIP) in June 2007, based on study results published in the October 25, 2007, New England Journal of Medicine (NEJM), which simplifies recommendations for prevention of hepatitis A in these groups.

The NEJM article showed that vaccine efficacy (86%), when administered ≤14 days after exposure, approached IG (90%) in healthy children and adults aged ≤40 years.

Most persons who previously would have received IG after exposure to a person with hepatitis A can now be given hepatitis A vaccine. Local public health districts in Idaho will now be recommending vaccine in many cases where a household member or other person might have been exposed to a person with hepatitis A. Completion of the vaccine series according to the licensed schedule is necessary for long-term protection.

For most travelers, life is now going to be much easier. Hepatitis A vaccination at the age-appropriate dose is preferred to IG for many persons traveling to areas with high or intermediate HAV endemicity.

Based on limited data indicating equivalent postexposure efficacy of IG and vaccine among healthy persons aged ≤40 years, one dose of single-antigen hepatitis A vaccine administered any time before departure provides adequate protection for most healthy persons aged 1-40 years. However, no data are available for other populations or other hepatitis A vaccine formulations (e.g., Twinrix®). For optimal protection, older adults, immunocompromised persons, and persons with chronic liver disease or other chronic medical conditions planning to depart to an area in ≤2 weeks should receive the initial dose of vaccine and simultaneous administration of IG (0.02 mL/kg) at a separate anatomic injection site. Completion of the vaccine series according to the licensed schedule is necessary for long-term protection.

IG will still be used in some situations. Travelers who elect not to receive vaccine, are aged <12 months, or are allergic to a vaccine component should receive a single dose of IG (0.02 mL/kg), which provides effective protection against hepatitis A for up to 3 months. Such travelers whose travel period is expected to be >2 months should be administered IG at 0.06 mL/kg; administration must be repeated if the travel period is >5 months.

Data are not available regarding the risk for hepatitis A for persons traveling to certain areas of the Caribbean, although vaccination should be considered if travel to areas with questionable sanitation is anticipated. Travelers to Australia, Canada, western Europe, Japan, or New Zealand are at no greater risk for infection than persons living or traveling in the United States. Information on countries for which hepatitis A vaccine is recommended can be found at http://wwwn.cdc.gov/travel/yellowbookch4-hepa.aspx

Due to high rates of hepatitis A in Idaho and throughout the West, ACIP recommended in 1999 that routine vaccination of Idaho children two years of age and older be implemented. In 2005, ACIP recommended all U.S. children receive hepatitis A vaccine at 12-23 months of age. Hepatitis A disease rates have declined dramatically in Idaho and the U.S. in recent years (Figure 1). In 2006, the vaccination rate for children entering kindergarten in Idaho was 68% (at least one dose) and 45% (two doses).

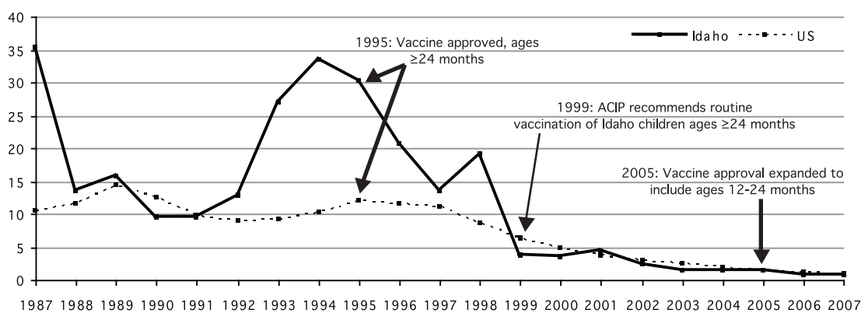

Figure 1. Hepatitis A incidence rates per 100,000 population, Idaho and U.S., 1987–2007*
*2007 Idaho and U.S. data are provisional. 2006 U.S. data are preliminary.

False Negative Result for Syphilis: Prozone Reaction in an Idaho patient

IN NOVEMBER 2007, A 27 YEAR OLD MALE was seen by an Idaho physician for blurred vision. Body rash and oral lesions were not present at the patient's visit, but were reported to be present during the last year. Blood was drawn and the serum specimen was tested for syphilis at a commercial reference laboratory. The syphilis serologic screening Rapid Plasma Reagin (RPR) test result was reactive, with a quantitative titer result of 1:32,768. The confirmatory Fluorescent Treponemal Antibody–Absorption (FTA-ABS) was also reactive.

When the patient reported to begin treatment, a second blood specimen was taken in order to monitor titer response to antibiotic therapy. The test result was non-reactive by RPR performed at a different laboratory. Because of the previous reactive results, this result was thought to be falsely negative due to a phenomenon known as the prozone reaction. After re-testing the second specimen at the state public health laboratory, the Venereal Disease Research Laboratory (VDRL) syphilis screening test was found to be reactive with a titer of 1:128 and the confirmatory TPPA was reactive, substantiating the hypothesis that these results represented the prozone reaction.

This event is a good a reminder of possible falsely negative syphilis screening results due to the prozone reaction.

The prozone reaction is a false negative non-treponemal syphilis screening (e.g., RPR, Venereal Disease Research Laboratory [VDRL]) test resulting from excess antibody in undiluted serum inhibiting the antigen-antibody reaction.

Overall, the incidence of the prozone reaction is thought to be very low (≤ 2%).[1,2] The prozone reaction can occur when antibody titer is very high (e.g., secondary syphilis, pregnancy)[1] and may be more common with HIV infection. Case reports have described the prozone reaction being present in specimens from HIV positive patients up to 1:64 dilution.[3]

Because of the possibility of the prozone reaction, clinicians should specifically request titering in addition to the screening test when the index of suspicion is high. This may be requested later if initial screening results are reported as negative, by contacting the testing laboratory.

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A New Neurologic Syndrome Associated with Swine Slaughterhouse Practices

IN LATE OCTOBER, 2007 THE MINNESOTA DEPARTMENT OF HEALTH (MDH) began investigating unexplained neurologic illnesses in swine slaughterhouse workers. As of January 31, 2008 twelve cases of progressive inflammatory neuropathy (PIN) have been identified, with new onset bilateral and relatively symmetric flaccid weakness/paralysis of the limbs, with or without involvement of cranial-nerve innervated muscles and new onset of decreased or absent deep-tendon reflexes at least in affected limbs. The MDH and the Centers for Disease Control and Prevention (CDC) have determined that participation in removal of pig brains using compressed air is a significant risk factor for illness. Inhalation or mucous membrane exposure to extracted brain tissue may have stimulated an autoimmune-mediated PIN. Further investigation into PIN, its causes and characteristics, is ongoing. The practice of removing pig brains by using compressed air has ceased in all three slaughter houses known to carry out this practice across the country. There are five swine processing plants in Idaho; none are believed to perform the procedure. To read more about this newly described syndrome see: http://www.cdc.gov/mmwR/preview/mmwrhtml/mm5705a3.htm

Chronic Disease, Injury, and Environmental Health epidemiologist

The Office of Epidemiology and Food Protection would like to introduce the newest member of our staff, **DR. ROBERT GRAFF**. Robert is our Chronic Disease, Injury, and Environmental Health epidemiologist and has a doctorate in medical anthropology from Southern Methodist University in Dallas, Texas. Over the past seven years Robert has held a variety of public health roles and gained experience working in clinical, research, and street outreach settings. He also brings experience investigating treatment adherence issues for both chronic communicable (HIV/AIDS, hepatitis C) and non-communicable (hypertension) diseases. Robert's primary role will be to utilize his experience and skills to better inform public health practice regarding chronic disease prevention and control, injury prevention, and environmental health. He will also provide assessment of risk and protective factors associated with these areas of public health. Look forward to future contributions from Robert addressing chronic and environmental health issues.